

**ABSTRACT**

The invention relates to a method and apparatus for detecting substances or analytes from the analysis of one or several samples. The method comprises mixing the sample with a suitable liquid buffer, homogenizing said sample, adding reagents thereto, filtering it, injecting the sample into the incubation chamber, allowing the sample to react with a biosensor, washing the non-reacted sample excess and detecting the sample retained in the biosensor. The apparatus includes a sample homogenizer module with an ultrasonic piezoelectric device formed by a converter (49) and a horn (16); a sample processing module including a homogenization container (6) and a moving frame (17); a reagent and solution management module including a motorized syringe (60), a reaction module consisting of a support (50) forming a reaction chamber (51) and a data reading module including a laser diode (66) and a CCD camera (67).

Figure 4.